REMARKS

The paper is in response to the final Office action mailed August 27, 2009 ("the Office Action"). The foregoing amendment amends claims 9, 11, 14, and 26; and adds new claim 29. Claims 1-4, 6-24, and 26-29 are now pending in view of the amendments (claims 5 and 25 having been previously cancelled). Applicants respectfully request reconsideration of the application in view of the above amendments to the claims and the following remarks. For Examiner's convenience and reference, Applicants present remarks in the order that the Office Action raises the corresponding issues.

In connection with the prosecution of this case and any related cases, Applicants have, and/or may, discuss various aspects of the disclosure of the cited references as those references are then understood by the Applicants. Because such discussion could reflect an incomplete or incorrect understanding of one or more of the references, the position of the Applicants with respect to a reference is not necessarily fixed or irrevocable. Applicants thus hereby reserve the right, both during and after prosecution of this case, to modify the views expressed with regard to any reference.

Please note that Applicants do not intend the following remarks to be an exhaustive enumeration of the distinctions between any cited references and the claims. Rather, Applicants present the distinctions below solely by way of example to illustrate some of the differences between the claims and the cited references. Finally, Applicants request that Examiner carefully review any references discussed below to ensure that Applicants' understanding and discussion of any reference is consistent with Examiner's understanding.

Unless otherwise explicitly stated, the term "Applicants" is used herein generically and may refer to a single inventor, a set of inventors, an appropriate assignee, or any other entity or person with authority to prosecute this application.

I. Rejection Under 35 U.S.C. §112, ¶2

The Office Action rejects claims 9-13, 14-18, and 27 under 35 U.S.C. §112, ¶2, as being indefinite. Applicants respectfully submit that the rejection is obviated and should be withdrawn in view of the above amendments.

For example, with respect to claim 9, the Examiner alleged, "It is unclear and indefinite as to whether the hunting frequency or data signal frequency corresponds to a rate of data encoded in a data signal." As amended, claim 9 specifies that the data signal frequency through which the hunting frequency passes is the frequency that corresponds to the rate of data encoded in the data signal: "…the phase locked loop briefly asserts a synchronization signal when a hunting frequency passes through a data signal frequency that corresponds to a rate of data encoded in a data signal."

Claim 14 has been amended to recite only one instance of "a data signal," referring to "the" data signal thereafter. Therefore, claim 14 no longer recites "two instances" of "a data signal." In addition claim 14 has been amended to connect the "sampling," "extracting," and "using" limitations with the "asserting" limitation. Accordingly, no essential steps are omitted.

In light of the foregoing, Applicants respectfully request withdrawal of the rejection under § 112, ¶ 2.

II. Rejection Under 35 U.S.C. §112, ¶1

The Office Action rejects claims 19-24 and 26-28 under 35 U.S.C. §112, ¶1. Applicants respectfully submit that the rejection is obviated and should be withdrawn in view of the above amendment to claim 26.

The Examiner alleged that claim 26, as previously presented, included a limitation opposite that of a corresponding limitation in claim 19. Applicants have noted the inconsistency and have amended claim 26 to correct the inconsistency. Therefore, withdrawal of the rejection under § 112, ¶ 1, is respectfully requested.

III. Rejection Under 35 U.S.C. §102

The Office Action rejects claims 9-12, 19, 20, 24-26, and 28 under 35 U.S.C. §102(b) over *Lutz* (U.S. Patent No. 4,276,548). Applicants respectfully disagree.

According to MPEP §2131, a claim is anticipated under 35 U.S.C. §102(a), (b), or (e) only if each and every element as set forth in the claim is found, either expressly or inherently, in

a single prior art reference. The reference must show the identical invention in as complete detail as is contained in the claim. Finally, the elements must be arranged or combined as required by the claim.

A. Claims 9-12 and new claim 29

Lutz is directed to a meter for measuring the relative velocity of an object. *See Lutz*, Abstract. A phase locked loop in the meter of *Lutz* hunts for a coherent component of a difference signal, the frequency of which is proportional to the relative velocity of a moving object, such as a thrown baseball. *See Lutz*, col. 2, lines 46-57. The difference signal is generated by mixing energy reflected from the object with non-reflected energy. *See id.* col. 2, lines 49-51.

Claim 9 recites, among other things, "a controller chip having a phase locked loop that is adapted to operate in a hunting mode in which the phase locked loop briefly asserts a synchronization signal when a hunting frequency passes through a data signal frequency that corresponds to a rate of data encoded in a data signal." The Examiner considers the difference signal to be equivalent to the claimed "data signal" having data encoded therein. For example, the Examiner referred to "the amplified difference signal" as a "data signal" and referred to a "data rate" of data "encoded in the data signal." *See Office Action* at 5. However, the difference signal of *Lutz* is not a "data signal" because no data is "encoded" therein. The difference signal is merely the result of mixing energy reflected from a moving object with non-reflected energy. Although the difference signal contains a coherent component having a frequency that is proportional to the velocity of the moving object, the velocity-indicating frequency does not constitute "data" that was "encoded."

In light of the foregoing, no *prima facie* case of anticipation has been established with respect to claim 9. Accordingly, the rejection of claim 9, and corresponding dependent claims 10-12, should be withdrawn.

Newly added claim 29 is submitted to be patentable over the cited art at least by virtue of its dependence from allowable claim 9. Also, claim 29 further distinguishes from the *Lutz* velocity meter in that it requires the data encoded in the data signal be "digital data encoded with

data encoding circuitry." The difference signal of *Lutz* has no data encoded therein, much less "digital data encoded with data encoding circuitry." Therefore, claim 29 is allowable over the cited art for at least this additional reason.

B. Claims 19-28

Claim 19 recites, among other things, "a timing circuit adapted to measure a period of time that the synchronization signal is asserted using at least a capacitor arranged to discharge when the synchronization signal is asserted and to charge when the synchronization signal is not asserted." The Examiner initially identified a capacitor (318) in *Lutz* as the claimed capacitor. *See Office Action* at 7 and 8 (citing *Lutz* at column 8, lines 19-22). However, the Examiner later identified a different capacitor (360) in *Lutz* as the claimed capacitor that is "arranged to discharge when the synchronization signal is asserted and to charge when the synchronization signal is not asserted." *See id.* (citing *Lutz* at column 8, lines 55-67, which refers to "discharge capacitor 360"). Both capacitors cannot logically correspond to the claimed "a capacitor."

In fact, capacitor (318) is part of a first timer (16) that "develop[s] on a line 46 a (stabilization signal) of predetermined period after [a] lock signal has stabilized," whereas capacitor (360) is part of a second timer (18) that "responds to the delayed lock signal developed on line 46…[and] causes the state of [a] reset signal to change and, a predetermined time thereafter, it causes the state of [a] latch signal to change." *See Lutz* at col. 3, line 56, through col. 4, line 2, and Figure 1. Therefore, the capacitors are used in different timers for different purposes and are not both used by a single timing circuit (or timer) to "measure a period of time that the synchronization signal is asserted," as claimed.

In light of the foregoing, Applicants respectfully submit that no *prima facie* case of anticipation has been established with respect to claim 19. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 19, and corresponding dependent claims 20, 24-26, and 28.

IV. Rejection under 35 U.S.C §103(a)

The Office action rejects claims 1-8, 13-18, 21-23, 26, 27 under 35 U.S.C §103(a) as follows:

- Claims 1-3 and 6-7 are rejected as being unpatentable over *Lutz* in view of *Khoury, Jr. et al.* (U.S. Patent Publication No. 2004/0042504);[1]

- Claims 14-16 and 27 are rejected as being unpatentable over *Lutz* in view of what is purported to be admitted prior art ("*APA*");

- Claims 4 and 5 are rejected as being unpatentable over *Lutz* in view of *Khoury* as applied to claims 1 and 14, and in further view of "Transistors" at www.electronics-tutorials.com ("*Transistors Tutorial*");

- Claim 21 is rejected as being unpatentable over *Lutz* as applied to claim 19 above, and in view of *Transistors*;

- Claim 26 is rejected over *Lutz* as applied to claim 19;

- Claim 17 is rejected over *Lutz* in view of *APA* as applied to claim 14, in further view of *Rumbaugh* (U.S. Patent No. 6,275,144);

- Claim 8 is rejected over *Lutz* in view of *Khoury, Jr. et al.* as applied to claim 7, and in further view of "Phase-Locked Loop Protocol Scheme for a Synchronization Field," IBM Technical Disclosure Bulletin, May 1990 ("*IBM TDB*");

- Claims 13, 22, and 23 are rejected over *Lutz* as applied to claims 7, 12, 14, 19, and 22 in view of *IBM*; and

- Claim 18 is rejected over *Lutz* in view of *APA* as applied to claim 14, and in further view of *IBM TDB*.

Applicants respectfully traverse the rejection.

[1] Because *Khoury* is only citable under 35 U.S.C. §102(e), Applicants do not admit that *Khoury* is in fact prior art with respect to any or all of the claims of the present application, but rather reserve the right to swear behind *Khoury* in this application or a divisional, continuation, or CIP thereof, thereby removing it as a reference.

Under 35 U.S.C §103(a), "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." According to MPEP §2142, "[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." Finally, MPEP 2141.III notes that:

> "The key to supporting any rejection under 35 U.S.C. 103 is the ***clear articulation of the reason(s) why the claimed invention would have been obvious.*** The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "'***[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'***" *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396." (Emphases added.)

Claims 13, 21-23, 26, and 27 variously depend from one of claims 9 and 19. As such, each of claims 13, 21-23, 26, and 27 incorporates a corresponding one of the limitations discussed above in section III. *Transistors Tutorial*, *IBM TDB*, and *APA* are relied on for their purported teachings relative to certain dependent claim limitations and have not been shown to cure the deficiencies of *Lutz* discussed above in section III. Therefore, Applicants respectfully submit that claims 13, 21-23, 26, and 27 are allowable over the cited art at least by virtue of their dependence from one of allowable claims 9 and 19 and the rejection under section 103 should be withdrawn.

As to claim 1, the Examiner conceded, "Lutz fails to disclose 'a demultiplexer arranged to receive a clock signal from the phase locked loop, the demultiplexer being configured to convert the serial data signal to a parallel data signal based on the clock signal.'" *See Office Action* at 12. The Examiner then alleged that *Khoury* discloses "such a limitation." *See id.* The Examiner fails to provide, however, any "reason why the claimed invention would have been obvious." For example, it is not apparent why the demultiplexer purportedly taught in *Khoury* would have been obvious to use in the velocity meter of *Lutz*. In fact, the demultiplexer of *Khoury* synchronizes a retimed "data channel D1" having "data bits" with other data channels

(*see Khoury* at ¶¶ 29 and 30), whereas *Lutz* does not describe any corresponding data channels. Thus, *Lutz* does not appear to suffer any deficiencies in terms data channel synchronization that would suggest a need or desire for using the demultiplexer of *Khoury*.

For at least the foregoing reasons, no *prima facie* case of obviousness has been established with respect to claim 1. Accordingly, the rejection of claim 1, and corresponding dependent claims 2-8, should be withdrawn.

Claim 14 is submitted to be allowable over the cited art for similar reasons. More specifically, the Examiner conceded that *Lutz* fails to disclose the following limitations of claim 14:

> sampling data from the data signal;
>
> extracting a clock signal from the data signal; and
>
> using the extracted clock signal as a reference for converting the sampled data into synchronized data to be read by the host device.

See Office Action at 14. The Examiner then alleged that *APA* discloses the foregoing limitations and that it would have been obvious to "sample and extract a clock of the data signal for the purpose of synchronization as disclosed by the prior art into Lutz so to accurately read the data at appropriate times allowing for efficient synchronization." *See id.* at 15.

Applicants respectfully submit, however, that *Lutz* does not describe any "data signal" from which data could be sampled or from which a clock signal could be extracted. Instead, the "difference signal" of *Lutz* (characterized as the claimed "data signal") merely contains a coherent component having a frequency that is proportional to the velocity of the moving object. The velocity-indicating frequency does not constitute "data" that can be sampled or a "clock signal" that can be extracted. Thus, *Lutz* does not appear to suffer any deficiencies in terms data signal sampling or clock signal extraction that would suggest a need or desire for applying the sampling and extracting techniques purportedly taught by *APA*.

For at least the foregoing reasons, no *prima facie* case of obviousness has been established with respect to claim 14. Accordingly, the rejection of claim 14, and corresponding dependent claims 15-18, should be withdrawn.

Charge Authorization

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are allowable. In the event that Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or overcome by an Examiner's Amendment, Examiner is requested to contact the undersigned attorney.

Dated this 11th day of December, 2009.

Respectfully submitted,

/Ronald J. Ward/Reg. No. 54,870
RONALD J. WARD
Registration No. 54,870
ERIC L. MASCHOFF
Registration No. 36,596
Attorneys for Applicant
Customer No. 022913
Telephone: (801) 533-9800

RJW:jbh
2611564_1.DOC